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ROYAL BURGH OF STIRLING.

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ANNUAL REPORT

ON THE

GENERAL SANITARY CONDITION OF THE BURGH

BY

JOHN FYFE, Cert. Royal San. Assoc. Scot.
Assoc. M. Inst. S.E.

For the Year 1924.

STIRLING.
Jamieson & Munro, Ltd., Printers, 40 Craigs

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1924

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Sanitary Department, Municipal Buildings,
Stirling, 8th July, 1925.

To the Honourable the Scottish Board of Health, and the
Provost, Magistrates, and Councillors of the
Royal Burgh of Stirling.

Ladies and Gentlemen,

I have the honour of submitting to you my Annual Report upon the General Sanitary Condition of the Burgh, and the work accomplished by the Sanitary Department during the year 1924.

The Report has been prepared in accordance with the requirements of the Scottish Board of Health.

I have the honour to remain,

Ladies and Gentlemen,

Your obedient Servant,

JOHN FYFE.

The Scottish Board of Health call upon every Sanitary Inspector of a Burgh to prepare annually a Report for the year ending 31st December, which Report shall contain :—

(a) A general account of the sanitary state of the Burgh, as regards Water Supply, Drainage, Scavenging, Nuisances, etc., together with any suggestions for improvement.

(b) An account of his general inspections, and of any special inspections or enquiries, including the supervision of Slaughterhouses and other Offensive Trades, and the sanitary conditions of Schools, Factories, and Workshops.

(c) An account of the condition of the Common Lodging-houses.

(d) An account of the condition of the Dairies, Cowsheds, and Milkshops.

(e) An account of the condition of the Burial Grounds.

(f) An account of his proceedings under the Burgh Police Act.

(g) A report on the work done by the Local Authority under the Sale of Food and Drugs Acts, the Milk and Dairies (Amendment) Act, 1922, the Milk (Special Designations) Order (Scotland) 1923, the Condensed Milk Regulations, 1923, and the Dried Milk Regulations, 1923, with observations on any special questions which have received or require attention. It should be noted : (1) that the approval of the Board is required to the arrangements made by Local Authorities before any licences for the sale of graded milk are issued ; and (2) that, in terms of Article 7 of the Condensed Milk and Dried Milk Regulations, certain infringements are to be reported to the Board. The Annual Report should also contain a list of the names and addresses of those persons to whom new licences for the sale of graded milk have been granted during the year.

(h) An account of any proceedings under the Rag Flock Act, 1911.

(i) A statement, in such form as the Scottish Board of Health may from time to time direct, of his proceedings during the year.

I might be again permitted to draw attention to the danger to health of the inmates of houses where gas cookers are installed, and where there is no outlet for carrying away the unconsumed gas or products of combustion. It is well known that where gas fires are burning in a room with adequate arrangements for carrying off the vitiated air, no harm will accrue, but the inhalation of even dilute unconsumed gas is very deleterious.

The mixture of water-gas, or carbon-monoxide—which is odourless—presently mixed with coal gas, is very dangerous, and it is important that all gas cookers should be provided with a canopy of heavy zinc or sheet iron, with an outlet pipe carried into an existing flue. The gas piping and fittings of a house should be always thoroughly gas tight. Heating and cooking with electricity is the ideal, but the expense over gas is nearly five times more costly.

ATMOSPHERIC POLLUTION BY DEPOSITED IMPURITIES.

Three water-tight wooden boxes, 12″ by 12″ by 13″ deep, were placed and fixed on buildings in 3 different centres of the town on the 7th of July, and taken down with their contents on the 8th October, 1924, that is to say, they were left in position for 92 full days of 24 hours—in other words, for a period of 3 months.

No. 1 Box.—Placed on a building at the corner of Barnton Street and Maxwell Place, and about 16 feet above the street level. At this part of the town the street is laid with Trinidad Asphalt, and there is an enormous traffic with motors, etc. The rainwater collected was 13.05 litres, or 2.87 gallons.

No. 2 Box.—Placed on a wing of a house at Pitt Terrace, and about 12 feet above the ground level. There is a chimney in connection with a public work in this quarter, and when the wind is from the east the smoke from this chimney is blown right across this part of the town. The rainwater collected was 14.35 litres, or 3.16 gallons.

No. 3 Box.—Placed on a flat roof at the rear of the Municipal Buildings, and about 30 feet above the ground level. There is nothing about this part of the town which should cause any aggravated pollution of the atmosphere except smoke from house chimneys. The rainwater collected was 13.00 litres, or 2.87 gallons.

The rainfall from the 8th July till the 7th October, 1924, was 9.59 inches, or a total amount in gallons of 334,746,104 over the whole Burgh area of 1543 acres.

The object of carrying out this experimental work was to find out differences, if any, in the pollution of the atmosphere at different parts of the town :—

The undermentioned figures represent pounds per acre.

	1 Box.	2 Box.	3 Box.
DISSOLVED SOLIDS.			
Loss on Ignition	83.0	90.5	86.9
Ash	106.8	87.4	92.1
	189.8	177.9	179.0
INSOLUBLE SOLIDS.			
Tarry Matter	14.4	8.7	7.9
Carbonaceous Matter or Soot	197.3	167.6	145.2
Ash or Grit	309.3	146.7	159.1
	521.0	323.0	312.2

TOTAL SOLIDS.

Total Solids Dissolved ...	189.8	177.9	179.0
Total Solids Insoluble ...	521.0	323.0	312.2
	710.8	500.9	491.2
Sulphates (SO_3) ...	47.6	40.1	43.5
Chlorides (Cl)	23.8	16.0	14.8
Ammonia (NH_3)	2.1	2.2	2.0

Details on other methods of calculation have been omitted from this Report for clearness.

The three principal items of pollution, and which appeal mostly to all of us, are the insoluble solids (1) Tarry Matter ; (2) Carbonaceous Matter or Soot ; and (3) Ash or Grit.

The total amount collected in the 3 boxes for the 3 months is as follows :—

(a) Tarry Matter—31.0, or an average amount of 10.33 lbs. per acre.
(b) Carbonaceous Matter or Soot—510.1, or an average amount of 170.03 lbs. per acre.
(c) Ash or Grit—615.1, or an average amount of 205.03 lbs. per acre.

In calculations of this description we generally include the whole area of the Burgh, whether built upon or not.

The acreage of the Burgh is 1543 acres, but as this includes a part of the River Forth, of 70 acres, the calculation is based on 1543—70 = 1473 acres. Therefore, the approximate deposit over this Area will be : (a) Tarry Matter, 15216.09 lbs. ; (b) Carbonaceous Matter or Soot, 250454.19 lbs. ; (c) Ash or Grit, 302009.19 lbs. This is the deposit for the 3 Autumn months.

In comparing the amount of pollution in the three different parts of the town, we find the following results :—

(a) Tarry Deposit.—In No. 1 Box at the centre of the town, 39% **above** the average for the whole Burgh.
In No. 2 Box at Pitt Terrace, 16% **below** the average.
In No. 3 Box at rear of Municipal Buildings, 24% **below** the average.

(b) Carbonaceous Matter or Soot Deposit.—
At the centre of the town, 16% **above** the average for the whole Burgh.
At rear of Pitt Terrace, 1% **below** the average.
At rear of Municipal Buildings, 15% **below** the average.

(c) Ash or Grit.— At the centre of the town, 51% **above** the average for the whole Burgh.
At rear of Pitt Terrace, 28% **below** the average.
At rear of Municipal Buildings, 22% **below** the average.

The tarry and soot deposit in the box at the rear of Pitt Terrace was only 16% and 1% respectively below the average for the whole Burgh, thus showing that the smoke from the factory chimney in the vicinity has a good deal to do with this pollution.

The average amount of Total Solids (Soluble) and Total Solids (Insoluble) deposited in the 3 boxes for the 3 months of 20.36 and 43.20 metric tons per square kilometre respectively, is exceedingly favourable to the results obtained in 1911 and 1914.

I have no further comments to add at present, as we are all quite conversant with the remedy for the pollution of smoke from our factory and domestic chimneys.

MONTHLY MEAN METEOROLOGICAL RECORDS OF THE BURGH OF STIRLING.

From Observation Station at Sauchie House and Sunshine Recorder at High School. For the Year 1924.

Station:—Latitude, 56 degrees—7 minutes N.; Longitude, 3 degrees—56 minutes W.; Height above Mean Sea Level, 151 feet; Sunshine Recorder, 179 feet above M.S.L.

MONTH.	Barometric pressure in inches.	Temperature of atmosphere. Deg. Fahr. in shade.				Temperature of atmosphere. Deg. Fahr. in open.				Terrestrial radiation or minimum on grass.	Solar radiation (Black bulb).	Temperature 4 feet below the surface of the ground.	Temperature 1 foot below the surface of the ground.	Relative humidity of atmosphere (Saturation point, 100 per cent.).	Rainfall in inches.	Number of rainy days.	Bright sunshine in hours.	Percentage of possible sunshine.	Number of sunless days.	Number of gloomy and foggy days.	Direction of prevailing wind.	Mean wind force expressed in miles per hour.	Cloud amount (Beaufort scale).
		Maximum.	Minimum.	Monthly mean of maximum and minimum.	Range.	Maximum.	Minimum.	Mean of maximum and minimum.	Range.														
January ...	29·70	44·0	34·2	39·1	9·8	47·0	33·1	40·1	13·9	31·2	54·6	42·8	36·4	91	4·24	31	19·8	8	23	14	W., W.S.W.	2·0	7
February ...	29·90	44·0	34·0	39·0	10·0	54·5	33·4	43·9	21·1	31·0	73·0	42·1	39·0	85	0·45	19	59·2	22	9	4	W.	3·0	6
March ...	29·75	45·4	30·9	38·2	14·5	56·4	29·1	42·8	27·3	26·5	77·9	41·3	35·5	82	0·94	18	120·7	33	9	15	W.	1·9	6
April ...	29·71	52·2	36·4	44·3	15·8	63·8	34·9	49·4	28·9	33·2	101·1	42·1	43·3	78	2·52	16	140·1	33	4	19	W.	1·9	6
May ...	29·66	55·7	42·7	49·2	13·0	64·5	41·0	52·7	23·5	39·1	95·4	44·9	49·9	85	4·94	26	100·9	20	9	19	W.	1·9	7
June ...	29·81	63·3	48·0	55·7	15·3	71·4	47·1	59·3	24·3	...	111·3	49·2	57·5	77	2·23	19	160·2	30	5	13	W.	1·9	6
July ...	29·67	64·1	51·7	57·9	12·4	73·5	52·3	62·9	21·2	49·8	111·1	53·1	60·4	77	3·64	23	127·5	25	7	15	W.	1·9	7
August ...	29·58	62·6	50·8	56·7	11·8	70·3	51·7	61·0	18·6	48·3	102·0	54·8	58·7	82	2·45	25	89·1	19	13	18	W.	1·9	7
September ...	29·64	59·8	47·2	53·5	12·6	71·5	45·7	58·6	25·8	44·5	102·0	54·6	55·5	82	4·28	22	142·2	37	7	12	W.	1·9	6
October ...	29·72	52·9	42·8	47·9	10·1	61·9	41·0	51·5	20·9	40·1	80·3	52·6	49·4	88	3·14	22	75·8	24	13	16	W.	1·9	7
November ...	29·84	48·6	39·5	44·1	9·1	55·5	39·4	47·4	16·1	36·6	67·4	49·8	44·2	88	3·06	16	36·3	17	19	22	W,.W.N.W.	1·9	7
December ...	29·58	48·5	40·8	44·7	7·7	51·8	38·4	45·1	13·4	37·5	58·2	47·9	43·9	89	8·10	29	11·4	5	24	18	W.S.W., W.	3·0	7
Mean for Year 1924	**29.71**	**53.4**	**41.6**	**47.5**	**11.8**	**61.8**	**40.8**	**51.3**	**21.0**	**37.9**	**86.2**	**47.9**	**47.8**	**84**	**39.99**	**266**	**1083.2**	**23**	**142**	**185**	**W.**	**2.1**	**6.5**

STATISTICS.

The estimated population of Stirling is about 22,000, the acreage being 1543, or a density of population of 14.2 persons per acre over the whole area. The inhabited houses number 5020, or a ratio of population to inhabited houses of 4.4 persons per house. The valuation for 1924-25 was £167,601 10s. 4d.

WATER SUPPLY.

The water supply to the Burgh is abundant and excellent in quality. The population supplied is 23,803, the consumpt per day of 24 hours being at the rate of 40.29 gallons per head, or, including public works, 60.02 gallons per head. The total amount of water supplied per day equals 1,428,709 gallons. Samples of the water were taken for Chemical and Bacteriological examinations, and herewith is appended the reports. The chemical tests were carried out by our Public Analysts, Messrs. R. R. Tatlock & Thomson, Glasgow, and the bacteriological tests by our Bacteriologist, Professor Carstairs Douglas, Glasgow.

156 Bath Street,
Glasgow, 1st July, 1924.

" Chemical Examination. No. 1 Sample of Water taken before filtration."
" Chemical Examination. No. 2 Sample of Water taken after filtration."

	Grains per Gallon. No. 1.	Grains per Gallon. No. 2.
Mineral Matter	3.81	3.74
Organic Matter	1.10	0.82
Total Dissolved Matter	4.91	4.56
Nitrates	none.	none.
Free Ammonia	0.001	0.001
Albuminoid Ammonia	0.006	0.006
Total Ammonia	0.007	0.007
Temporary Hardness	1.41	1.41
Permanent Hardness	1.35	1.25
Total Hardness	2.76	2.66
Colour (Loch Katrine Water equals 10)	22.	16.
Suspended Matter	0.35	none.

No. 1.—The sample, as received, contained a small quantity of suspended matter, including a few water fleas, and when filtered had a distinct brown tint, due to unobjectionable mossy matter. The analysis shows that this water is free from animal matter or sewage, and provided the suspended matter is removed, is suitable for drinking and other dietetic purposes. It is also a soft water and well adapted for washing.

No. 2.—The sample, as received, was free from suspended matter, and had a brown tint which was less than that of No. 1. The remarks on No. 1 apply to this sample also. The results of the two samples show that filtration has removed all the suspended matter from No. 1, also about 27 per cent. of the mossy matter, which causes the brown colour.

(Signed) R. R. TATLOCK & THOMSON.

Label.—" Sample of Stirling Water taken from tap in Municipal Buildings."

	Grains per Gallon.
Mineral Matter	3.81
Organic Matter	0.80
Total Dissolved Matter	4.61
Nitrates	none.
Free Ammonia	0.011
Albuminoid Ammonia	0.006
Total Ammonia	0.017
Temporary Hardness	1.40
Permanent Hardness	1.28
Total Hardness	2.68
Colour (Loch Katrine Water equals 10)	16.
Suspended Matter	none.

The sample, as received, was free from suspended matter, and had a brown tint, due to unobjectionable mossy matter.

The analysis shows that this water is free from animal matter or sewage, and is in every respect suitable for drinking and other dietetic purposes. It is also a soft water, and well adapted for washing.

A comparison of the analysis with those of the two samples reported upon by us on 1st July shows that the composition of this sample is practically the same as that of the water taken after filtration.

(Signed) R. R. TATLOCK & THOMSON.

The Anderson College of Medicine,
Glasgow, W., 28th June, 1924.

Bacteriological Examination. Water marked No. 1 before filtration.

Total organisms growing at 37°C. (98.6° Fahr.) on agar in 48 hours = 23 per 1 cubic centimetre of sample.

Evidence of coliform organisms :—

In	1 c.c.	none.
	5 c.c.	doubtful trace.
	10 c.c.	present.

Water marked No. 2 after filtration.

Total organisms growing at 37°C. on agar in 48 hours = 9 per 1 c.c. of sample.

Evidence of coliform organisms :—

In	1 c.c.	none.
	5 c.c.	none.
	10 c.c.	none.

The water is definitely improved by filtration, and is then of excellent quality. Even before filtration it is very fair.

Water marked No. 3 from tap in Municipal Buildings.

No. of organisms growing at 37°C. in 48 hours per c.c. = 41 per 1 c.c. of sample.

B. Coli. —

1 c.c.	none.
5 c.c.	none.
10 c.c.	none.
50 c.c.	present.

The total count is rather high.

The B. Coli. result is satisfactory.

(Signed) CARSTAIRS DOUGLAS, M.D., D.Sc., F.R.S.E.

SEWERS AND SEWAGE DISPOSAL.

The sewers of the town range in diameter from 6 feet to 6 inches. The sewage effluent is discharged from the 10 different outfall sewers directly into the river Forth, and without treatment. The masking or dilution of the sewage effluent by the river water is nearly 49 times. No complaints were received by me.

PUBLIC CONVENIENCES.

During the year new public conveniences have been erected at Borestone Crescent, Irvine Place, and the underground conveniences at the entrance to the King's Park, while reconstruction of some of the existing conveniences was carried out.

CLEANSING AND REFUSE DISPOSAL.

The cleansing of streets and roads, and the collection of refuse, are of paramount importance in safeguarding the health of the people of any community. In Stirling the refuse is removed on the " daily removal " system, with some of the outlying districts on the " bi-weekly " principle. The daily amount of refuse dealt with amounts to about 17 tons, which is presently deposited on the refuse depot at the Back-o'-Hill. The age of dumping unscreened refuse over waste-land is long since gone, and it is pleasing to note that the Town Council are fully alive to the necessity of getting rid of the refuse by the most economical and hygienic manner possible. The only drawback to the daily removal of refuse is that the household refuse is placed in all sorts and sizes of receptacles, which are mostly uncovered, and on windy mornings the lighter particles are blown all over the street. This is to be deplored, but it would be a large order to ask the inhabitants in general to provide a standard covered bin. Again, no provision is made in tenemental properties for the storing of the bins, with the result that you find them kept in some curious places ; in fact, in a great many instances they are kept in the dwelling-house itself.

GENERAL DEFECTIVE CONDITIONS AND NUISANCES.

During the year considerable time is taken up in the removal of nuisances. Complaints both written and verbal were received regarding same, but some of these were found to be of a trifling nature. The following are the defects and nuisances dealt with :—

Choked Traps	67
Choked Drains	55
Defective Plasterwork	37
Areas Cleansed	29
Defective Woodwork	23
Accumulations of Manure removed	20
Choked Waterclosets	19
Stables Cleansed and Limewashed	19

Defective Roofing	18
Dampness in Houses	15
Defective Flooring	15
Defective Waste-pipes	14
Defective Soil Pipes	13
Windows properly hung with weights and cords	12
Dirty Courtyards cleansed	12
Defective Rhones	11
New " Washdown " Waterclosets fitted up	11
Verminous Houses	10
Dirty Houses	9
Rats and Mice removed from properties	7
Smoke Nuisances	6
Choked Conductors	6
Defective Sinks	6
Defective Waterclosets	6
Waste Pipes disconnected from soil drain	4
Defective W.Cs. apartments	3
" Shanks " W.C. removed	3
New 2″ medium cast-iron Waste-pipes erected	3
Drains intercepted from Sewer	3
Drainage lifted and reconstructed	2
New 3½″ medium cast-iron Soil pipes erected	2
New Fireclay-enamel Sink fitted up	1
New Boiler fitted into washhouse	1
Total	462

DRAINAGE AND SANITARY IMPROVEMENT OF EXISTING PROPERTIES.

The smoke test was applied to the following properties :—

Cranstonhill, Allan Park.
Parkgate, Victoria Place.
17 Weaver Row, St. Ninians.
10 Upper Craigs.
23 Baker Street.
9 Melville Terrace.
5 Park Avenue.
Allan Park House.
19 Bruce Street.
4 Middle Craigs.
South United Free Church.
Co-operative Aerated Water Works, Forth Street.
Maygate, Queen's Road.
3 Victoria Place.
95 Baker Street.
23 Friars Street.
22 Upper Craigs.
13 Seaforth Place.
15 Seaforth Place.
7 Friars Street.

In 9 properties the drainage, etc., was found to be defective, and the necessary alterations and repairs were carried out.

GENERAL INSPECTIONS.

The nature and number of the Inspections carried out during the year are as follows :—

Infectious Diseases Inquiries (including Pulmonary Tuberculosis)	152
General Nuisances	1652
Cleansing of Dirty Houses	13
Overcrowding of Dwelling-houses (Non-Ticketed)	14
Overcrowding of Dwelling-houses (Ticketed)	15
Sweeping and Washing of Common Stairs and Passages	36
Whitewashing and Painting of Common Stairs and Passages	1976
Ventilation of Staircases	44

Paving of Areas and Courtyards	4
Smoke Abatement	53
Smoke Testing Drainage and Sanitary Fittings	31
Improving Drainage and Sanitary Fittings	152
Water Supply (including Chemical and Bacteriological Examinations)	11
Lodging Houses (separate rooms)	42
Tents and Vans	6
Ticketed Houses (Burgh Police (Scotland) Act, 1903, Section 67)	1
Housing (Inspection of District) Regulations, 1910	165
New Buildings and Additions	22
Food and Drugs Acts	127
Margarine Act	40
Food Inspection throughout Shops, etc.	167
Ice Cream and Fried Fish Shops	86
Markets and Slaughter-house	74
Dairies, Cowsheds and Milkshops	93
Stables	27
Pigstyes	58
Factories and Workshops	66
Bakehouses	28
Schools and other Public Buildings	19
Public Places of Amusement	14
Fertilisers and Feeding Stuffs Act	3
Rag Flock Act	8
Shops Act	116
Atmospheric Pollution	12
Meteorological Observations	730
Miscellaneous	391
LABORATORY WORK.—Examination for Fat and Solids in Milk	95
Bacteriological Examination of Milk	7
Microscopical Examination of Milk	3
Sedimentation in Milk	5
Examination of Air for CO2	28
Suspended Impurity in the Atmosphere	1
Total Inspections	6587

SPECIAL INSPECTIONS AND ENQUIRIES.

During the year two special inspections and enquiries were carried out and reported upon. The first was in connection with the discharge of sewage matter and the consequent pollution of the Raploch Burn inside the Burgh boundaries, and the second the ventilation of the Cells at the Police Chambers, Broad Street.

Raploch Burn (Reported to the Public Health Committee).—I beg to report on the discharge of sewage matter into the Raploch Burn, principally caused by the sewage effluent from the village of Cambusbarron. From the village 5 waterclosets and 221 sinks discharge into the said burn. The discharges from the waterclosets pass through cesspools, so arresting the organic matter in suspension, but allowing the organic matter in solution to enter the burn. The discharge from the slaughterhouse enters the burn, but again the solid matter in suspension is arrested in cesspools. Seventeen waterclosets from the Cambusbarron Mills also discharge into the burn.

I herewith append a copy of a report from our Public Analysts.

156 BATH STREET,
GLASGOW, 7th August, 1924.

Analysis of a sample of effluent received on the 1st inst. from John Fyfe, Esq., Sanitary Inspector, Stirling.

Label.—“ Raploch Burn.”

In Suspension.	Parts per 100,000.
Mineral Matter	2.81
Organic Matter	0.63
Total Suspended Matter	3.44

In Solution.	Parts per 100,000.
Mineral Matter	20.41
Organic Matter	2.60
Total Solid Matter	23.01
Nitrates and Nitrites	none.
Free Ammonia	1.97
Albuminoid Ammonia	0.16
	2.13

IN WHOLE SAMPLE.

Dissolved Oxygen taken up in 5 days	1.2

The sample, as received, contained some dark grey suspended matter, and when filtered, the liquid had a distinct, but not strong, brown colour.

The analysis shows that this effluent contains about 30 per cent. of sewage of average composition. Regarded as an effluent, it contains 0.44 parts of suspended matter above the general standard (3 parts per 100,000) recommended by the Royal Commission on Sewage Disposal, but the Dissolved Oxygen taken up in 5 days is considerably less than their general standard of 2 parts per 100,000.

(Signed) R. R. TATLOCK & THOMSON.

There is no doubt that the pollution of the burn, as it passes through the Burgh, is caused wholly and solely by the discharges of 22 waterclosets, 221 sinks, and the effluent from the slaughterhouse. As is reported, no organic matter in suspension practically enters the burn except from the sinks, but the organic matter in solution causes secondary decomposition, which causes a fungus growth along the bed and sides of the burn.

Police Cells (Reported to Magistrates).—I beg to submit my report on the ventilation of the cells at the Police Chambers, Broad Street. There are altogether 5 cells.

No. 1, or the cell for females, contains approximately 1674.5 cubic feet, and the lighting and ventilation is by means of a window 3′ 7″ by 1′ 0″ (clear of frame), the ventilating area being 376 square inches, along with a small ventilating grating at the side of the window of 7 square inches, which is carried to and up the outside of the building in a 4″ by 2½″ conductor pipe with a tee-piece on the top, making a total ventilating area of 383 square inches as combined inlet and outlet.

No. 2 cell contains approximately 1182.3 cubic feet, and the lighting and ventilation is by means of a window 2′ 1″ by 1′ 0″ (clear of frame), the ventilating area being 232 square inches.

No. 3 cell contains approximately 757.3 cubic feet, and the lighting and ventilation is by means of a window 2′ 1″ by 1′ 0″ (clear of frame), the ventilating area being 232 square inches.

No. 4 cell contains approximately 1121.1 cubic feet; the lighting and ventilation is by means of a window 2′ 1″ by 1′ 0″ (clear of frame), the ventilating area being 232 square inches, along with a small ventilating grating at the side of the window of 7 square inches, which is carried to and up the outside of the building in a 4″ by 2½″ conductor pipe with a tee-piece on the top, making a total ventilating area of 239 square inches.

No. 5 cell contains approximately 866.5 cubic feet, and the lighting and ventilation is carried out by means of a window 2′ 1″ by 1′ 0″ (clear of frame), the ventilating area being 232 square inches.

Allowing one square inch of ventilation area to every 60 cubic feet of air in each cell, I am of the opinion that the ventilation is ample. There is no through ventilation in any of the cells, but owing to the position and situation which the cells bear to one another, it is practically impossible to provide for such ventilation. If it is thought necessary that the ventilation should be increased it could be best accomplished by inserting 6 inch circular pipes through the external walls of cells number 2, 3, and 5, and to increase the size of the present pipes of 4 inches by 2½ inches to that of 6 inch circular pipes in cells number 1 and 4. An opening of, say, 2 feet by 6 inches could be made in the dividing wall between the female cell and cell number 2.

The sanitary arrangements in each of the cells being on the conservancy or pail system, the air in the cells when occupied by prisoners must be very fetid. It is now proposed to erect " Washdown " waterclosets in each of the cells with new 4 inch cast-iron (⅜″ metal) drainage provided with adequate ventilation, etc. I am sure this will in great measure tend to promote a cleaner and healthier atmosphere in the cells, and further, I consider that this improvement is very essential and much desired.

SMOKE TESTING OF DRAINAGE AND THE INSPECTION OF SANITARY FITTINGS OF NEW PROPERTIES.

During the year the smoke test was applied to the drainage and the sanitary fittings inspected of the following properties :—

73 and 75 Murray Place;
Bungalow, Livilands Gate;
Double Villa, Torbrex ;
Bungalow, Randolph Road;
Guildhall Bowling Green Pavilion;
The Salvation Army Citadel, Irvine Place;
Double Villa, Torbrex;

in all of which cases the drainage was found to be well laid and gas-tight. The interception, disconnection, ventilation, and inspection was satisfactorily carried out. Two certificates were granted to the Burgh Engineer.

MARKETS.

The three markets in the town are owned and conducted by Limited Companies. They are well constructed, and a large business is done in the sale of Live Stock. The market day is held on Thursday, but throughout the year there are numerous special sales.

OFFENSIVE TRADES.

Visits of inspection are made from time to time to the premises of the one Tallow Melter, and one Tripe and Gut Cleaner at the Slaughterhouse. The premises are always kept in excellent sanitary condition, and the businesses properly conducted.

SLAUGHTERHOUSE.

The establishment still continues to be well conducted, and the inspection of meat is very thoroughly carried out.

Additional plant has been erected for the treatment of diseased meat and offal. The plant consists of bone crusher, digester, extractor and disintegrator, the object being to reduce the diseased meat and offal into a marketable meal. Fish offal is also treated by the plant, and a ready sale is obtained for the feeding of stock. To give some idea of the working of the plant, I have obtained the following particulars from the Superintendent, (Mr. Peter Thornton).

	Cwts.	Qrs.	Lbs.	
Weight of condemned Carcass to be reduced	5	1	0	
Residue.				
Weight of Meat Meal	1	0	14	or 21 per cent.
Weight of Bone Meal	0	3	10	or 16 per cent.
Weight of Bone Fat	0	1	2	or 5 per cent.
Weight of Tallow	1	0	0	or 19 per cent.
	2	4	26	or 61 per cent.
Time taken to bone out and cut up Carcass	...	...	...	1 Hour.
Time in Digester Plant	...	...	...	2½ Hours.

Tallow.

	Cwts.	Qrs.	Lbs.	
Weight of Raw Tallow to be reduced ...	8	3	0	

Residue.

	Cwts.	Qrs.	Lbs.	
Weight of Melted Tallow or Fat	7	0	0	or 80 per cent.
Weight of Cracknels	0	2	14	or 7 per cent.
	7	2	14	or 87 per cent.
Time in Digester	...	...	...	1¼ Hours.

LODGING HOUSES.

There are 9 recognised lodging-houses in the Burgh, which up till the year 1920 were termed Common Lodging Houses. The total number of lodgers allowed by licence is 221.

The houses are all situated in the upper parts of the town, while 3 of the largest are included in the St. Mary's Wynd Improvement and Re-Housing Scheme.

The Bye-Laws are observed in all cases.

The number of inspections to lodging houses during the year was 42.

FACTORIES AND WORKSHOPS ACT.

There are 34 factories, 144 workshops, and 19 workplaces (Restaurant Kitchens) on the register, exclusive of bakehouses. The following table gives some indication of the work carried out during the year :—

1.—INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.

Premises.		Number of	
	Inspections.	Written Notices.	Prosecutions.
Factories (including Factory Laundries) ...	15	3	...
Workshops (including Workshop Laundries)	36	1	...
Workplaces (other than Outworkers' premises)	15	...	...
Totals	66	4	...

2 Defects found in Factories, Workshops, and Workplaces.

Particulars	Number of Defects			Number of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
Nuisances under the Public Health Acts :—				
Want of Cleanliness...	4	4	...	...
Want of Ventilation	...	...	...	...
Overcrowding	...	...	...	...
Want of Drainage of Floors	...	...	...	...
Other Nuisances	7	7	...	...
Sanitary Accommodation — Insufficient	...	...	...	...
Sanitary Accommodation — Unsuitable or Defective ...	...	...	...	...
Sanitary Accommodation — Not separate for Sexes	...	...	...	...
Offences under the Factory and Workshop Acts :—				
Illegal occupation of Underground Bakehouse	...	...	...	...
Other Offences	...	...	...	...
Totals	11	11	...	...

BAKEHOUSES.

There are 12 bakehouses on the register, 10 factories and 2 workshops, giving employment to 62 men, 25 apprentices and 2 girls. During the latter part of the year the H.M. Inspector of Factories, and the Reporter, visited and inspected all the bakehouses, and except for a few minor defects, everything was found in a satisfactory condition. Two complaints were received during the year from H.M. Inspector of Factories with regard to two factory bakehouses which were not being kept in a cleanly state and were in need of limewashing. The two bakehouses were visited and the defects were put right. Nine of the bakehouses are lit with electric light. During the year 28 visits were paid to bakehouses.

CHEMICAL EXAMINATION OF AIR FOR CARBON-DIOXIDE (CO_2) IN BAKEHOUSES.

Four samples of air were collected and tested in our Laboratory by Pettenkofer's Method, with the following results :—

No.	Situation	Volumes of CO2 per 10,000 volumes of Air	**Respiratory Impurity** of CO2 per 10,000 volumes of Air	Barometric Pressure in Inches	Temperature °Fahr.	Relative Humidity per cent.
1	Outside Air	3·58	...	...	...	...
2	Bakehouse at 8 Broad Street	13·16	9·58	30·12	56	56
3	Underground Bakehouse Upper Craigs ...	12·46	8·88	30·18	60	62
4	New Bakehouse, Wallace Street ...	9·06	5·48	30·12	63	55

SCHOOLS.

During the year 1924 all the schools in the Burgh were visited and inspected with regard to the sanitary conveniences and water supply. The following is an abridged report of the result of the examination.—

High School.—The sanitary conveniences and water supply at this school are all in good condition.

Allan's School.—There is a lack of W.C. accommodation in this school in relation to the number of pupils on the roll. The drinking fountains are provided with iron tumblers.

Craigs School.—The sanitary conveniences and the water supply at this school are all in good condition.

Territorial School.—The sanitary conveniences are in good condition. The W.C. accommodation is inadequate in relation to the number of pupils on the roll.

St. Ninians School.—The drinking fountains are provided with iron tumblers.

English School.—The condition of the sanitary conveniences and apartments in this school are very bad. The walls of the W.Cs. are broken and much in need of limewashing. The W.Cs. and urinals are not kept in a cleanly condition. The doors of the W.C. apartments are off the hinges, and only one of the 3 W.Cs. for the use of the infants is open. The playground in rear of this school is in a very bad condition, and will require some drastic improvement.

St. Mary's R.C. School.—The sanitary conveniences and apartments at this school are indeed in a very unsatisfactory condition. The area at the boys W.Cs. is flooded, and the 7 trough W.Cs. used by the girls are in a stagnant condition, and it would appear that the trough had not been flushed out for weeks previous. There are no doors on any of the W.C. apartments used by the scholars. The washhand-basins are of the foot valve pattern, and they appear to have been out of use for some considerable time. The rear playground at this school is in a very defective condition, and will require some attention.

I am pleased to be able to report that all the minor defects have been attended to, and the work has been carried out by the Authority's Architect in a satisfactory manner.

Regarding the drinking facilities in some of the above schools, and in the interests of public health, it is very desirable that all common iron drinking tumblers or cups should be abolished, and spray fountains provided. This is a matter of great importance, and should be considered by the Authority.

STABLES AND PIGSTYES.

The 25 stables within the Burgh, with accommodation for 126 horses, are visited and inspected at regular intervals. 19 letters regarding the limewashing of the walls and general cleanliness were issued to owners.

There are 19 piggeries within the Burgh. The number of pigs kept is approximately 146. Seven first and 4 second notices were served on owners to have their pigstyes limewashed. Verbal intimations were also given from time to time, with the desired effect.

DAIRIES, COWSHEDS, AND MILKSHOPS.

There are 30 persons registered in the Burgh to purvey milk—7 dairy farmers and 23 milk retailers. Eighteen milk carts are used in purveying milk, of which four belong to persons whose premises are situated outside the Burgh. At the end of the year the number of milk cows housed in the seven byres was 117, as compared with 123 last year. 93 visits of inspection were made during the year. Along with the Veterinary Surgeon the seven cowsheds were visited, each on three different occasions. The Veterinary Surgeon, (Mr. George Inglis, M.R.C.V.S.), examined 111 milk cows, and found them all in good health. So far as construction and cleanliness of the byres was concerned, everything was found in quite a satisfactory condition. In two of the byres we found that the dairy farmers had provided at the head of each cow an automatic drinking trough. This is a great advantage to the health of the animal, because it can quench its thirst when it so desires, instead of being driven to a trough and having perhaps a too copious supply at one time. The patentee of the drinking trough reports that it increases the milk supply from each animal by about 25 per cent. From the dairy farmer's point of view this is no doubt very good.

CHEMICAL EXAMINATION OF AIR FOR CARBON-DIOXIDE (CO_2) IN BYRES.

Three samples of air were collected and tested in our Laboratory by Pettenkofer's Method, with the following results :—

No.	Situation	Volumes of CO2 per 10,000 volumes of Air	**Respiratory Impurity** of CO2 per 10,000 volumes of Air	Barometric Pressure in Inches	Temperature °Fahr.	Relative Humidity per cent.
1	Outside Air	4·0	...	...	...	...
2	Byre, Wellgreen Dairy	19·3	15·3	30·21	59	57
3	Byre, King's Park Farm	11·9	7·9	30·21	55	58

FOOD AND DRUGS ACT.

The following tabular statement shows the nature of the 45 samples forwarded to our Public Analysts.

Of the 45 formal samples 39 or 87 per cent. were reported as "Genuine," while 6 or 13 per cent. were reported as "Non-Genuine."

Formal Samples.

Nature of Sample.	Number Taken.	Number Genuine.	Number Non-Genuine.
Sweet Milk	26	22	4
Bread and Butter	8	6	2
Butter	5	5	...
Rice	2	2	...
Pure Coffee	1	1	...
White Pepper	1	1	...
Cream of Tartar	1	1	...
Gooseberry Jam	1	1	...
Totals	45	39	6

Sweet Milk.—The 4 "Non-Genuine" sweet milks were deficient in Milk-Fat, or Solids-not-Fat, to the extent of :—

No. 1.—Deficient in milk-fat to the extent of 18%. As this was a first offence, a letter of warning was considered sufficient.

No. 2.—Deficient in milk-solids other than milk-fat to the extent of 3%. This sample was taken "In Course of Delivery." As this was a first offence, a letter of warning was accordingly sent.

No. 3.—Deficient in milk-solids other than milk-fat to the extent of 6%. The remarks on sample No. 1 apply to this sample also.

No. 4.—Deficient in milk-solids other than milk-fat to the extent of 29%. This sample was taken "In Course of Delivery" at Stirling Railway Station. The vendor of this sample was convicted in the Sheriff Court, and a fine of £3 or 7 days' imprisonment was inflicted.

Of the 26 sweet milks, 8 samples were taken " In Course of Delivery " at Stirling Railway Station, and 5 samples were taken " In Course of Delivery " at milk shops.

Bread and Butter.—The two formal samples of Bread and Butter which were found to be " Non-Genuine " were procured in tea-rooms. The assistants there were asked to provide tea with bread and butter, and we were supplied with bread and margarine. The matter was reported to the Public Health Committee, and after a vote it was decided to warn the owner of each of the restaurants in question. Since that I have received instructions from the Town Council to procure samples and to submit same to be analysed, and, if necessary, to take proceedings against offenders, with full powers.

INFORMAL SAMPLES.

Nine informal samples were purchased and forwarded to our Public Analysts. One sample of sweet milk was found to be deficient in milk-solids other than milk-fat to the extent of 23 per cent.

Nature of Sample.	Number Taken.	Number Genuine.	Number Non-Genuine.
Sweet Milk	4	3	1
Double Cream	1	1	...
Self-Raising Flour	1	1	—
Plain Flour	2	2	—
Sugar	1	1	—
Totals	9	8	1

MILK AND DAIRIES (AMENDMENT) ACT, 1922.
AND
THE MILK (SPECIAL DESIGNATIONS) AMENDMENT ORDER (SCOTLAND), 1923.

There is nothing to report in terms of the provisions of the above Act and Order.

THE PUBLIC HEALTH (CONDENSED MILK) REGULATIONS (SCOTLAND), 1923.

These Regulations came into force on the 1st October, 1923, and in March, 1924, I was authorised by the Town Council to procure samples of condensed milk and deal with them as set forth in the Regulations.

Every tin or other receptacle containing condensed milk shall bear a proper label in the manner prescribed on the 1st Schedule to these Regulations.

Two samples of condensed milk were submitted to our Public Analysts for analysis.

No. 1 Sample—Full Cream (Sweetened).

Milk-Fat	9.32 per cent.
Solids-not-Fat	22.90 per cent.
Total Milk Solids	32.22 per cent.
Preservatives	none.

No. 2 Sample—Full Cream (Unsweetened).

Milk-Fat	9.18 per cent.
Solids-not-Fat	22.65 per cent.
Total Milk Solids	31.83 per cent.
Preservatives	none.

In accordance with the Regulations, Condensed Full Cream Milk, either sweetened or unsweetened, must contain not less than 9.0 per cent. of Milk Fat and 31.0 per cent. of all Milk Solids including Fat.

Inspections were made from time to time throughout shops in the Burgh as to the labelling of the tins, etc., but it is pleasing to note that in every shop the Regulations were being complied with.

THE PUBLIC HEALTH (DRIED MILK) REGULATIONS (SCOTLAND), 1923.

These regulations came into operation on the 1st of May, 1924, and in January, 1924, I was authorised by the Town Council to procure samples for analysis. Every tin or other receptacle containing dried milk shall bear a proper label in accordance with the instructions of the Scottish Board of Health. Two samples of dried full cream milk were submitted to our Public Analysts with the following results. :—

No. 1 Sample.—

Milk-Fat	28.05 per cent.
Solids-not-Fat	68.47 per cent.
Moisture	3.48 per cent.
	100.00 per cent.

No. 2 Sample.—

Milk-Fat	27.89 per cent.
Solids-not-Fat	68.10 per cent.
Moisture	4.01 per cent.
	100.00 per cent.

The standard for Dried Full Cream Milk, as laid down by the Regulations, must contain not less than 26 per cent. of Milk-Fat. Inspections were made to Grocers who retail Dried Milk, and all the tins in stock were found to be properly labelled in accordance with the Regulations.

THE SALE OF FOOD ORDER, 1921.

(Labelling of Imported Produce).

In terms of Article 7 of the above Order, all imported meat shall be properly labelled so as to be easily readable by the customers. " Meat " shall include beef, mutton, lamb, pork and veal. Article 8 of the Order forbids the sale, or exposure for sale, as fresh eggs or new-laid eggs, of any eggs imported into the United Kingdom, unless the description also includes the word " imported," or words disclosing the country of origin. 117 visits were paid to shops in connection with the proper labelling of meat and eggs. It was found necessary to give verbal warning to 19 shopkeepers.

TICKETING OF MARGARINE.

Forty visits or inspections were made to premises where margarine is exposed for sale, in order to ascertain whether the margarine exposed for sale was properly ticketed—by tickets " Margarine " in block letters 1½ inches square. As a first offence, eight shopkeepers were warned and informed that the margarine must be exposed to the view of the customer, and that the tickets must be easily seen.

BACTERIOLOGICAL EXAMINATION OF MILK.

Seven samples of sweet milk were procured and submitted to a bacteriological examination by our Bacteriologist, who reported on the total organisms in one cubic centimetre (about 17 drops) at 37 degrees Centigrade (98.6° Fahr.) in 48 hours.

	Total Organisms per 1 c.c.	Bacillus Coli in 1/10th of a c.c.	Bacillus Coli in 1/100th of a c.c.
No. 1 Sample	800,000	Present.	Present.
No. 2 Sample	600,000	Present.	Present.
No. 3 Sample	400,000	Present	Present.
No. 4 Sample	830,000	Present	Present
No. 5 Sample	480,000	Present	Present
No. 6 Sample	960,000	Present	Present
No. 7 Sample	360,000	Present	Present

Samples Nos. 1, 2, 3, and 6 were milks taken " In Course of Delivery " at Stirling Railway Station, and samples Nos. 4, 5, and 7 were milks supplied to the Child Welfare Centre, Sauchie House.

A sample of double cream in a cardboard container was also examined with the following result. Total organisms per 1 c.c., 6,000, but there was a yield of B. Coli in 1/10th and 1/100th of a c.c.

SEDIMENT OR DIRT IN MILK.

Fifteen samples of sweet milk were forwarded to our Public Analysts in order to ascertain the amount of sediment or dirt present in each sample. The results are as follows :—

Sample No. 1.	From Milkshop	1.0 part per 100,000.
Sample No. 2.	From Milkshop	3.0 parts per 100,000.
Sample No. 3.	From Dairy (" In Course of Delivery ")	2.0 parts per 100,000.
Sample No. 4.	From Dairy (" In Course of Delivery ")	3.0 parts per 100,000.
Sample No. 5.	(Taken " In Course of Delivery " at Stirling Railway Station)	2.2 parts per 100,000.
Sample No. 6.	(Taken " In Course of Delivery " at Stirling Railway Station)	2.8 parts per 100,000.
Sample No. 7.	From Milkshop	1.2 parts per 100,000.
Sample No. 8.	From Dairy	0.5 parts per 100,000.
Sample No. 9.	From Dairy	2.5 parts per 100,000.
Sample No. 10.	From Dairy	0.4 parts per 100,000.
Sample No. 11.	(Taken " In Course of Delivery " at Stirling Railway Station)	1.2 parts per 100,000.
Sample No. 12.	From Dairy	1.0 parts per 100,000.
Sample No. 13.	From Milk-cart	1.0 parts per 100,000.
Sample No. 14.	From Milk-cart	1.5 parts per 100,000.
Sample No. 15.	From Milk-cart.	1.5 parts per 100,000.

The question of sediment in milk is a matter to which I have given much attention of late, and up till now it is unfortunate that no definite legal standard has been adopted. In England prosecutions are now and again taking place. In 1922, two producers of milk were fined £7 with the option of 41 days' imprisonment, and £5 or 30 days' imprisonment, for having sold milk which contained sediment to the extent of 3.6 and 3.8 parts per 100,000 parts respectively.

Mr. S. H. Moore, the Chief Sanitary Inspector of Chester, stated in a letter to me, dated 29th August, 1922, " that proceedings in respect of dirty milk are taken under Section 6 of the Sale of Food and Drugs Act, 1875, the milk being sold to the prejudice of the purchaser." He (Mr. Moore) also states that he has successfully instituted proceedings for dirty milk where the amount of sediment was as low as 2 parts per 100,000 parts, where half the amount of sediment consisted of dung, but, as a rule, he does not institute proceedings where the amount of sediment does not exceed 3 parts per 100,000 parts. In such cases a letter of warning is sent to the vendor.

As the matter is of great importance, I append a letter received from the Scottish Board of Health :—

Scottish Board of Health,
Edinburgh, 28th January, 1924.

Sir,

I have submitted to the Scottish Board of Health your letter of 12th December, in regard to the sampling of milk with a view to ascertaining the amount of sediment.

I am directed to state, in reply, that, in the absence of a standard in regard to sediment in milk or contamination of milk, the Board, as advised, are not prepared to give an opinion in regard to the amount of sediment that should be considered as warranting legal proceedings. As no doubt proceedings for an excessive amount of dirt in milk will be taken under Section 6 of the Sale of Food and Drugs Act, 1875, the matter is clearly one that falls to be decided by the Local Authority under that Act.

The Board, however, agree that the milk supply should be carefully watched in order to ensure that the public are supplied with pure and clean milk. In this connection, I enclose, for your information, a copy of a Memorandum showing a method of estimation of the sediment in milk. It will be observed that the estimation of the sediment may be made by this method without interfering with the usual chemical analysis, and, accordingly, the sample obtained for such analysis may be used for the purpose of estimating the amount of sediment.

The Memorandum has been drawn up not for the purpose of laying down a standard, but in order to assist Local Authorities and their officers in regard to a suitable method of estimating sediment and forming a judgment thereon.

An additional copy of the Memorandum is also enclosed in order that, if you so desire, it may be sent to the Public Analyst.

I am, Sir,

Your obedient Servant,

(Signed) J. B. B. BROWN,
for Assistant Secretary.

In order to bring this subject more prominently before Food and Drugs Inspectors, who are all well aware of the present condition of things, and to stimulate for greater efforts in the immediate future to eliminate dirty milk from being retailed to the people, I am of the opinion, that the Memorandum—which is confidential—should be in the hands of all concerned in this work.

PRESERVATIVES, ETC., IN FOOD.

On the 13th February, 1925, there was issued draft Regulations with respect to Preservatives in Food proposed to be made by the Scottish Board of Health. During the year 1924, 29 samples of what one would term special foods were purchased for analysis, particularly to ascertain the nature and amount of preservatives present.

Sausages	13
Sponge Cake	10
Cherry Cake	1
Turkey and Tongue Paste	1
Chicken, Ham and Tongue	1

Strawberry Wine	1
Green Ginger Wine	1
Pickles	1
	29

Sausages.—

	Meat %	Filling and Mineral Matter %	Water %	Sulphurous Acid % (SO_2)	Grains per ℔.
No. 1 Sample	64	13	23	0.041	2.87
No. 2 Sample	64	12	24	0.016	1.12
No. 3 Sample	63	12	25	0.023	1.61
No. 4 Sample	58	14	28	0.030	2.24
No. 5 Sample	64	15	21	0.112	7.84
No. 6 Sample	64	13	23	0.097	6.79
No. 7 Sample	60	14	26	0.005	0.35
No. 8 Sample	63	13	24	0.009	0.63
No. 9 Sample	62	12	26	None present	
No. 10 Sample	69	11	20	0.022	1.54
No. 11 Sample	56	14	30	0.011	0.77
No. 12 Sample	57	15	28	0.080	5.60
No. 13 Sample	61	13	26	Boron preservative stated as boric acid, 0 24%, or equal to 16.8 grains per ℔.	

The use of preservatives in sausages is dealt with very fully by the Departmental Committee, and they have recommended that sulphurous acid in sausages should not exceed 3 grains per ℔.

Circular letters were sent out to all the butchers in the town in the following terms :—

Sanitary Department,
Municipal Buildings,
Stirling, 24th November, 1924.

SULPHUROUS ACID IN SAUSAGE MEAT.

The draft report of the Departmental Committee on the use of Preservatives and Colouring Matters in Food will be issued shortly, and they are recommending that sulphurous acid, either in solution of such, or combined as normal or acid sulphite, should be permitted to be added to sausages up to a maximum of not more than 3 grains, calculated as sulphur dioxide (SO_2), per pound, and that no other preservative be allowed.

Samples of sausages were procured from a number of butchers in the town and the grains of sulphurous acid in a pound of sausages were in some cases very unsatisfactory.

I would therefore draw your attention to the use of sulphurous acid either of the solid or liquid form, so as to keep within and even below the standard as proposed by the Departmental Committee. The solid preservative is Metabisulphite of Soda, and the liquid is Bisulphite of Lime. The Metabisulphite of Soda generally contains about 50% of sulphurous acid (SO_2), while Bisulphite of Lime contains from 5 to 10% of sulphurous acid. In using the solid form the best way would be to dissolve 2¾ ounces of it in one imperial pint of water (20 fluid ounces), and use 1 fluid ounce of this solution for 10 pounds of sausage meat. In the liquid form there would be required 1 fluid ounce and 4 fluid drams for 10 pounds of sausage meat. In each case the sausage meat would contain almost exactly 3 grains of sulphurous acid per pound. It would be, of course, advisable to use less of the solid or liquid form, so as to keep well within the 3 grains per pound.

I would propose that you should ascertain from the firm you purchase the preservative the exact percentage of sulphurous acid in the material you use either in the solid or liquid form, and so arrive at the proper amount to be incorporated in the sausage meat. You would require to have at hand a fluid measure.

JOHN FYFE.
Inspector of Food and Drugs.

In this country there is no legal control over the composition of sausages, but the following standard is in force in some of the British Dominions.

Standard.—Fresh minced meat or sausage meat shall contain the variety or varieties of standard meat demanded by the purchaser, or designated by any accompanying notice or label or statement, and shall contain not less than 75% of meat, and not more than 6% of farinaceous matter, calculated as starch. Meat, as herein used, includes fat and lean meat. Sodium Sulphate may be added to, or mixed with the meat as a preservative substance in the proportion, calculated as sulphur dioxide (SO_2), not exceeding 0.05%.

You will observe that the percentage of sausage meat in the above samples is lower than the standard fixed abroad, but it is pleasing to note that in only 3 of the samples was the sulphurous acid—or to use the trade name Madam Rachel—higher than 0.05%.

Sponge Cake.—

Four samples when submitted for analysis did not contain any Boron or other preservatives, while the following 6 samples contained Boric Acid to the following amount :—

No. 5 Sample contained 0.025% of Boric Acid or 1.85 grains per ℔.
No. 6 Sample contained 0.024% of Boric Acid or 1.68 grains per ℔.
No. 7 Sample contained 0.05% of Boric Acid or 3.71 grains per ℔.
No. 8 Sample contained 0.06% of Boric Acid or 4.27 grains per ℔.
No. 9 Sample contained 0.04% of Boric Acid or 3.01 grains per ℔.
No. 10 Sample contained 0.03% of Boric Acid or 2.24 grains per ℔.

The presence of Boric Acid in Sponge Cakes due to the use of egg yolks—imported from China—as an ingredient thereof, has been the subject of negotiation between the Ministry of Health and the Importers' Association.

The yolks, it may be explained, are separated from the " whites " by machinery, and the addition to the former of 2% of boric acid is deemed necessary to ensure their preservation during transit. The " whites " are imported as dry albumen, and, when macerated in water and mixed with yolks, form liquid whole egg, much in use by bakers. With a view to restricting its use in sponge goods used for the food of infants and invalids, it has now been arranged, *inter alia*, that yolks or liquid whole egg shall not contain more than 1.5% or 1% respectively of boric acid, and that all invoices shall bear a statement that liquid egg is not to be used as an ingredient of sponge fingers or biscuits, or of 1d., 1½d., and 2d. plain sponge cakes.

Cherry Cake.—

	Per Cent.
Preserved Cherries	32.0
Sugar	19.5
Flour	26.0
Fat	11.7
Water	10.8
	100.0

The fat in the above sample was chiefly margarine, but a small portion of it appeared to be derived from eggs, and a little baking powder was also present. It contained 0.05% of Boron preservative, stated as Boric Acid, equal to 3.71 grains per ℔.

Turkey and Tongue Paste (Lazenby's).—
This sample does not contain any Sulphurous Acid, Boric Acid, or other preservative.

Chicken, Ham and Tongue (Cunningham and de Fourier).—

This sample does not contain any Sulphurous Acid, Boric Acid, or other preservative.

Strawberry Wine.—

This sample contains the parts, as under, of foreign ingredients, namely, 0.046% of Salicylic Acid, equal to 4.03 grains per pint.

Green Ginger Wine.—

This sample contains the parts, as under, of foreign ingredients, namely, 0.018% of Salicylic Acid, equal to 1.57 grains per pint.

Pickles.—

This sample is free from poisonous and injurious ingredients and preservatives.

LABORATORY WORK.

The Laboratory has been a great asset to the Public Health Department in many way, and during the year 99 informal samples of sweet milk were tested for milk-fat. 23 of the samples were milks supplied to the Child Welfare Centre, 6 milks as supplied to persons tendering milk-tickets—necessitous cases—from milk-carts, 8 were taken "In Course of Delivery" at Stirling Railway Station, 28 were procured from milk-shops, 2 were handed into the office, and 32 were procured from milk-carts retailing milk within the Burgh.

The following is a list of those samples, which on analysis proved to be non-genuine :—

Sample No. 2.	Milk-Fat 2.8%—Deficient in milk-fat to the extent of 7%.
Sample No. 3.	Milk-Fat 2.9%—Deficient in milk-fat to the extent of 3%.
Sample No. 13.	Solids-not-fat 8.28%—Deficient in solids not-fat to the extent of 3%.
Sample No. 18.	Milk-Fat 2.8%—Deficient in milk-fat to the extent of 7%.
Sample No. 51.	Milk-Fat 2.7%—Deficient in milk-fat to the extent of 10%.
Sample No. 75.	Milk-Fat 2.5%—Deficient in milk-fat to the extent of 17%.
Sample No. 90.	Milk-Fat 2.6%—Deficient in milk-fat to the extent of 13%.

Four samples were tested for sediment or dirt. Three of these samples were taken "In Course of Delivery" at Stirling Railway Station, and one from the Child Welfare Centre. All of these milks were found to be fairly clean, none of them exceeding 2 parts of sediment or dirt in 100,000 parts.

Only one sample was examined microscopically, this sample being taken "In Course of Delivery" at Stirling Railway Station.

The microscopical examination of the centrifugalised deposit and cream failed to show the presence of any acid-fast Bacilli.

There was a fair amount of Staphylococci and Diplococci, and also a number of Leucocytes.

FOOD INSPECTION.

Periodic visits are made to all shops where food stuffs are retailed. Along with the Veterinary Surgeon all the butcher shops are regularly visited and the meat examined. Some of the premises are situated in old property, so that the construction of the shop is not what one would term ideal, but the premises are kept in a clean condition. All the animals for meat supply are slaughtered and dressed at our own slaughterhouse. A few of the butchers purchase boneless meat from Glasgow in order to use up the fat they have left over for the making of sausages. In our inspections, particular attention is given to the cleanliness and the working of the sausage machines. In some of the shops the machines were thoroughly cleaned and repaired where necessary. Ventilation of the back shops and the provision of fly proof netting on the windows is also called for. In terms of the Meat Regulations, 14 cold stores were examined, 7 were found not in use, 2 out of repair, 2 being reconstructed, and 3 were found to be in excellent order.

A sample of butter with a worm attached was sent to me by a local trader in order to ascertain to what species the worm belonged. It was microscopically examined, when it was found to belong to the Trichocephalus species, but to make sure the worm was sent in alcohol to Professor Carstairs Douglas, who reported as follows :—

THE ANDERSON COLLEGE OF MEDICINE,
PARTICK, GLASGOW, 20th June, 1924.

JOHN FYFE, Esq.,
SANITARY DEPARTMENT,
STIRLING.

DEAR SIR,

I duly received specimen of small worm to-day said to have been found in butter.

It seems to have been in some hardening material, which has made it now somewhat stiff and brittle.

I have no doubt it is one of the Trichocephalus worms, or, as they are now called, Triehurus. It is too short for the ordinary Trichocephalus Dispar (now Trichurus Trichiurus) but there are several species of Trichurus, varying in size. I have one in my collection much larger than the usual one. They are very widely distributed parasites of the large intestine, and found all over the world. Their eggs are resistant and stand freezing quite well.

I cannot tell if they infect domestic animals such as cows, but they may quite well. They cause no disease in man. Their presence in food would point to careless handling and preparation and to the use of sewage contaminated water.

Yours truly,

(Signed) CARSTAIRS DOUGLAS, M.D., D.Sc.

It is quite apparent, in view of this report, that there is a carelessness in food production in Denmark as well as in our own country.

The trader—who conducts a first-class business—reported the matter to the Agents.

FRIED FISH AND CHIP SHOPS.

There are 13 Fried Fish and Chip Shops within the Burgh. Visits of inspection are made to these premises from time to time. All the shops are fitted out with modern ranges, and the fish and chips are wrapped up in white parchment paper. The premises are all kept in a sanitary manner, and examinations were made of the fish and fat.

ICE CREAM SHOPS.

There is no standard for the amount of fat in ice cream. Such commodity is seldom examined except for the presence of poisonous metals, and such bacteria as would indicate pollution or otherwise endanger health. In Victoria two classes of ice cream are recognised, the " standard " and the " mixed," for which standards of 6.8 and 2.5 per cent. of milk-fat are prescribed. The Queensland standard is 8, and the Columbus 10 per cent. of milk-fat. The United States standard for ice cream is 14 per cent. of milk-fat. Samples of ice cream taken in this country show a very poor percentage of milk-fat. Some standard should certainly be made compulsory for this commodity. Ice cream does not come within the category of the " Food and Drugs Acts," which Acts are in urgent need of revision. What is required are fixed and definite standards.

Inspections are made from time to time in order to examine the sanitary condition of the premises where ice cream is manufactured, and the manner in which the material used in the manufacture of the commodity is stored—white enamelled pails covered over with a muslin cloth. All shops or premises where ice cream is manufactured should be registered in the same manner as milk shops, and have the same supervision applied.

During the year 2 samples of ice cream were taken for analytical examination for milk-fats, etc., while 5 samples were procured in sterile bottles for a bacteriological examination, with the following results :—

Analytic Examination.—

	Milk-Fat %	Solids—not Fat %	Sugar and Corn Flour %	Water %	Preservatives
No. 1 Sample	11.27	6.58	11.22	70.93	None
No. 2 Sample	4.45	7.52	23.79	64.24	None

Bacteriological Examination.—

	Bacteria per 1 cubic centimetre.	B. Coli in 1/100th of a cubic centimetre.
No. 1 Sample	40,000	Present
No. 2 Sample	90,000	Present
No. 3 Sample	52,000	Present
No. 4 Sample	100,000	Present
No. 5 Sample	47,600	Present

Samples 2 and 4 were procured from ice cream vendors whose premises are not quite suitable for the manufacture of such a commodity.

HAWKING OF FRUIT.

In Stirling there are 12 fruiterers and one wholesale merchant, whose premises are all in first-class condition, and the storage of fruit there is very satisfactory.

There are 11 hawkers of fruit, and their stores were visited and inspected. In some instances it was necessary to cause a few structural alterations and in other cases the cleanliness of the stores had to be attended to.

FERTILISERS AND FEEDING STUFFS ACT.

Samples of Feeding Stuffs were procured from 3 dairy farmers and submitted to our Agricultural Analysts (Messrs. Tatlock & Thomson, Glasgow). My object in taking the samples was to ascertain the food value of each in connection with the production of good quality milk.

Sample No. 1 Cotton Cake.—

	Per Cent.	Guarantee.
Albuminoids	19.26	19 per cent.
Oil	4.65	4¼ per cent.
Carbohydrates	41.14	
Vegetable Fibre	17.10	
Mineral Matter	5.80	
Water	12.05	
	100.00	
Sand	2.08	
Food Units	101	

Sample No. 2 Bibby's Dairy Meal.—

	Per Cent.	Guarantee
Albuminoids	23.75	30 per cent.
Oil	7.92	6 per cent.
Carbohydrates	40.79	

Vegetable Fibre	8.50
Mineral Matter	7.20
Water	11.84
	100.00
Sand	1.02
Food Units	120

The analysis shows that this sample is deficient in Albuminoids to the extent of 6.25 per cent.

Sample No. 3—Brewer's Draff.—

	Per Cent.
Albuminoids	5.72
Oil	2.26
Carbohydrates	14.82
Vegetable Fibre	4.31
Mineral Matter	1.67
Water	71.22
	100.00
Sand	0.032
Food Units	35

The Analysts further reported in the following terms :—

" All three samples are quite suitable foods for dairy cows, and should be capable of producing milk of good quality, and in quantity. Of course, we presume that neither of the feeding stuffs would be used entirely for feeding cows, as, for example, the Cotton Cake. It is essential to give mixed feeding stuffs, and this may fairly be said of the Dairy Meal, and possibly of the Brewer's Draff.

The Food Units give the comparative value of the feeding stuffs, and if the Brewer's Draff were dried so that the water would be the same as in the other two samples, the Food Units would be 107.

Food Units of various Feeding Stuffs.—

Cocoa-nut	206
Linseed (with oil)	170
Soya Bean Meal	167
Cotton Cakes	160
Maize Meal	143
Clover Hay	68
Meadow Grass	23
Swedes	9
Turnips	8

The Food Units simply represent the comparative value of feeding stuffs for feeding purposes. Thus, Cocoanut Cake (Food Units, 206) has 25 times the nutritive value of Turnips (Food Units, 8), so that 1 ℔. of Cocoanut Cake is equal to 25 ℔s. of Turnips for feeding purposes. It has been found that Fat and Albuminoids have about 2.5 times the feeding value of Starch or Carbohydrates, so to find the Food Units you multiply the percentages of Albuminoids and Fat (or oil) by 2.5, and add the result to the percentage of Carbohydrates. The result gives the Food Units.

CHEMICAL EXAMINATION OF AIR FOR CARBON-DIOXIDE (CO_2) IN PICTURE HOUSES.

Seven samples of air were collected and tested in our Laboratory by Pettenkofer's Method, with the following results :—

No.	Situation	Volumes of CO2 per 10,000 volumes of Air	**Respiratory Impurity** of CO2 per 10,000 volumes of Air	Barometric Pressure in Inches	Temperature °Fahr.	Relative Humidity per cent.
1	Outside Air	3·05	...	...	...	...
2	Area, Alhambra Theatre	9·10	6·05	30·01	60	58
3	Balcony, Alhambra Theatre	12·30	9·25	30·01	62	67
4	Outside Air	4·00	...	...	...	...
5	Area, Alhambra Theatre	14·70	10·70	28·70	58	53
6	Balcony, Alhambra Theatre	14·90	10·90	28·70	56	60
7	Kinema Picture House	24·20	20·20	28·70	55	87

It is very essential that the air in all places of public amusement, when fully occupied, should not exceed 10 volumes of Carbon-Dioxide (CO_2) per 10,000 volumes of air. Nos. 3, 5, 6, and 7 exceeded this amount, and the attention of the proprietors of the picture houses was directed to this. An 18 inch Electric Fan has been installed in the Alhambra, and I received a letter from the proprietor of the Kinema to the following effect :—

Orchard Place,
Stirling, 20th December, 1925.

Dear Sir,

We duly received your letter of 17th inst.

Some months ago we fitted a new Fan at the Kinema and which is as large as the one in use at the Picture House. This fan when full on makes such a draught that it pulls the entrance doors shut. Probably it was not full on the evening you were down, as it is capable of emptying the Hall of air in a few minutes.

We have instructed our operator to run the fan faster in future, and this we are sure will keep the ventilation right.

Yours faithfully,

MENZIES BROS.

INCREASE OF RENT (RESTRICTION) ACTS.

One is surprised to learn that no application was received by the Sanitary Authority during the year, considering the amount of property where repairs are necessary and would be welcomed.

HOUSING.

At the beginning of the year 1925, at the request of the Scottish Board of Health, I reported to the Town Council, giving an estimate of the existing need for houses in the district, taking account of the number required to abate overcrowding, replace unfit houses, and houses below a reasonable standard of fitness, and the number required to meet the natural growth of the population.

Regarding statistics of overcrowding, this is a question which is very difficult to answer, because in No. 1 or Broad Street District you have as much as 20% of the houses overcrowded, while in No. 2 or Cowane Street District the percentage is about 5%, and again in No. 3 or Port Street District, where you have the Craigs Area and St. Ninians Area grouping with the West-end Area, the overcrowding is about 8%. The occupation of uninhabitable houses is a matter which I have paid more particular attention to.

In the Burgh there are 449 one-apartment houses, 1663 two-apartment houses, 1132 three-apartment houses, and 1776 four-apartments and over, or a total of 5020 separate dwellings. The table shows :—

(1) houses fit for human habitation.
(2) houses that can be made fit for human habitation.
(3) houses that can not be made fit for human habitation.

I have also added 50% of one-apartment houses to the uninhabitable houses, because, in my opinion, there are too many one-apartment houses in No. 1 or Broad Street District. I might also have added to this total say 5% or 10% of two-apartment houses, but, owing to the recent Circulars from the Scottish Board of Health regarding the advisability of erecting two-apartment houses, I have left the two-apartment houses alone, except taking into account the 87 which are in my opinion uninhabitable.

The total number of new houses required, as detailed in my statement, will undoubtedly meet the requirements of the population for the next nine or ten years, the calculation being based on the houses built by private enterprise during the years 1904 to 1914. During that period 588 separate dwellings were built and occupied, or an average of 53 houses per year.

I herewith submit a tabular statement of the general Housing Conditions over the whole Burgh Area :—

Condition of Houses	Number of Apartments				
	One	Two	Three	Four and Over	Total
(1) Houses fit for Human Habitation	52	1335	1061	1764	4212
(2) Houses that can be made fit for Human Habitation	98	241	46	12	397
(3) Houses that can **not** be made fit for Human Habitation	299	87	25	0	411
Totals	... 449	1663	1132	1776	5020

Number of New Houses required to replace (3)	411
Also, say 50% of one-apartment houses (1 and 2)	75
Total number of New Houses required to replace existing houses and to raise the general housing standard ...	486

At the south end of the town the Town Council is acquiring a site for the erection of 144 houses. The Burgh Engineer has been instructed to proceed immediately with the erection of 66 houses, the remainder to be erected from time to time. At the north end of the town a site plan has been prepared for the erection of 350 houses. Here again the Burgh Engineer is proceeding with the erection of 38 houses on one section of the site, the other sections to be built upon when necessary. Eight houses of two-apartments are about to be erected at Lower Castlehill. There are other small vacant sites throughout the town where it is contemplated building upon at an early date. The sizes of the houses are to be 50 per cent. two-apartments, 40 per cent. three-apartments, and 10 per cent. four-apartments and over.

REPORT for the Year ended 31st December, 1924, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-houses.

A.—Housing, Town Planning, Etc., Act, 1909.

1. Number of dwelling-houses inspected under and for the purposes of Section 17 165

2. Number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation 30
3. Number of representations made to the Local Authority with a view to the making of closing orders 0
4. Number of closing orders made 0
5. Number of dwelling-houses, the defects in which were remedied without making of closing orders (see below for proceedings taken under Section 25 of the Housing, Town Planning, etc. (Scotland) Act, 1919) 0
6. Number of dwelling-houses which, after the making of closing orders, were put into a fit state for human habitation 0

B.—Housing, Town Planning, Etc. (Scotland) Act, 1919.

1. Number of dwelling-houses in respect of which notices were served under Section 25 (1) 0
2. Number of dwelling-houses rendered fit for human habitation under Section 25 (1) 0
3. Number of dwelling-houses in respect of which closing orders became operative under Section 25 (1) 0
4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 25 (2) 0

BURGH POLICE (SCOTLAND) ACT, 1892.

(a) Whitewashing and Painting of Common Stairs and Passages.

In terms of the Burgh Police (Scotland) Act, 1892, Section 117, the following table will show the number of inspections and notices issued during the year :—

District.	First Inspection		Second Inspection		Final Inspection	
	No. of Passages and Staircases Inspected	No. of First Notices Issued	No. of Passages and Staircases Inspected	No. of Second Notices issued	No. of Passages and Staircases Inspected	No. of Final Notices Issued
No. 1 or Broad Street District	582	48	48	31	31	7
No. 2 or Cowane Street District	759	31	31	20	20	2
No. 3 or Port Street District	635	25	25	13	13	1
Totals	1976	104	104	64	64	10

The total inspections made were 1976, and the total number of intimations issued was 178.

(b) Sweeping and Washing of Common Stairs and Passages.

On 36 occasions visits were made to properties regarding the sweeping and washing of common stairs and passages. Considerable trouble is entailed in persuading tenants to take their turn of cleaning the common stairs and passages, and on 10 occasions written notices had to be sent—the other 26 cases being complied with by verbal warnings.

(c) Cleansing of Dirty Houses.

Altogether 13 visits were made to dirty houses. Eight notices were served on occupiers with the desired effect, but on one occasion it was found necessary to serve a final notice. The tenants of one of the dirty houses—husband and wife—were recently sentenced to six months hard labour for child neglect.

(d) Cleansing Areas.

Twenty-seven visits were paid to areas attached to tenemental properties, and 15 notices were served on tenants.

(e) Overcrowding.

Three very bad cases of overcrowding were dealt with. One of the cases of overcrowding was a small two-apartment house of 1,439 cubic feet, containing 9 adults and 6 children ; the other a house of 3 very small apartments with 8 adults and 7 children residing therein. The remaining case of overcrowding was found in an attic room, where there were residing 3 adults and 4 children.

RAG FLOCK ACT.

As stated in previous reports, there is no manufacture of rag flock in the Burgh, but samples of rag flock were submitted for analysis, this work being conducted by our Bacteriologist. Three of the samples were procured from a bedding manufacturer, 2 from an upholsterer, and 3 samples from bedding in an auction room which was laid out for sale.

Rag Flock shall be deemed to conform to the standard of cleanliness for the purpose of the Act, when the amount of soluble chlorine, in the form of chlorides, removed by thorough washing with distilled water at a temperature not exceeding 25 degrees Centigrade (77°Fahr.), from not less than 40 grammes of a well-mixed sample of flock, does not exceed 30 parts of chlorine in 100,000 parts of the flock.

From Bedding Manufacturer—

No. of Sample.	Chlorine per 100,000 parts of Flock.
1. Dark Flock	7.5 parts
2. Grey Flock	7.0 parts
3. White Flock	12.0 parts

From Upholsterer—

No. of Sample.	Chlorine per 100,000 parts of Flock.
1. White Flock	17.5 parts
2. Brown Flock	12.5 parts

From Auction Room—

No. of Sample.	Chlorine per 100,000 parts of Flock.
1. Flock from bed	308.2 parts
2. Flock from bed	28.5 parts
3. Flock from pillow	42.5 parts

No. 1 sample was extremely dirty.

I am of the opinion that to prevent the dissemination of infectious disease or vermin, it would be well that all bedding previously used should be sterilised by live steam of 15 lbs. pressure before being put up for sale at public roups.

SHOPS ACT.

During the year 116 visits of inspection were made to shops in connection with the early closing and the posting of the half holiday cards, etc., and it was found that the Act was being observed in all its particulars.

During the Christmas holidays I found that 22 of the shop-keepers unknowingly kept their places of business open on the Wednesday and Thursday, thus contravening the Act. Under the circumstances I came to the conclusion that a warning letter was quite sufficient, and I am sure this will not occur again.

SHOPS (EARLY CLOSING) ACTS.

Numerous visits were made to shops in order to detect any contraventions. Written and verbal warnings were conveyed to 15 shopkeepers, who have now fallen into line with all the others.

FLY NUISANCE.

That flies are an important agency in the spread of infectious disease is now very generally recognised, and methods of control are receiving more attention as to the full knowledge of the activities of flies in this respect.

The part played by flies in the transference of disease organisms is entirely mechanical. The fly does not act as host to these germs, as is the case in some varieties of mosquitoes for malaria and yellow fever organisms, but merely carries them on the body or in the digestive tract and later deposits them on food. The food introduces the organisms to the human body through the mouth.

Domestic flies or those normally found frequenting dwelling-houses comprises several species. The most common one is the House Fly, Musca Domestica. This fly deposits its eggs in different kinds of refuse and prefers fresh horse manure. It is estimated that 90% of the species are hatched in such material. The development of the fly takes place in three stages, namely, the egg, the larva, and the pupa. The period required for this to take place ranges from 8 to 14 days, depending on the weather and suitability of the breeding ground.

135 circular letters along with a poster " Beware the Fly " were sent to all the owners of stables, byres and pigstyes.

RATS AND MICE (DESTRUCTION) ACT.

The Board of Agriculture issued instructions that a " Rat Week " throughout Scotland should commence on the 24th March till the 29th March. The following is the report of the work carried out by this Department with a view to assisting in the extermination of the vermin.

125 circular letters accompanied by leaflet No. 51 were issued to the owners of markets, slaughterhouse, stables, cowsheds, and piggeries, and to a number of shopkeepers, requesting them to give us their co-operation and do their best to destroy the rodents. Advertisements were inserted in the local newspapers, and 24 large bills were posted up in the principal bill-posting stances. The chemists were asked to exhibit for sale in their windows rat poison, while the ironmongers were also asked to make a show of traps, etc. Rat poison was distributed free on application being made to the Department, and each applicant received a printed circular, published by the Board of Agriculture, pointing out the best way of laying baits and giving hints on other methods of destruction.

During the past year I had occasion to employ a rat catcher on 3 different occasions at properties in Lower Bridge Street, Dumbarton Road, and Upper Craigs.

Rat repression should be made a continuous policy, and not spasmodic, as in " Rat Weeks."

I am of the opinion that it would be a sound proposition to employ a full-time Rat Catcher for the Burgh and the County combined, the remuneration being met by the Town Council and the Stirling County Council, with say a grant given towards the expense by the Board of Agriculture, so far as the agricultural part of the Burgh and the County are concerned.

SMOKE ABATEMENT.

There are only 4 factory chimneys that give any trouble in the excessive emission of black smoke—2 within and 2 outwith the Burgh. The managers of the respective factories are fully alive to their responsibility and are doing their utmost to prevent this waste of coal by throwing it into the atmosphere.

The annoyance and the evil from coal smoke cannot be satisfactorily dealt with until the enactments at present in force are strengthened or amended.

CONTROL OF INFECTIOUS DISEASES.

Return of Cases of Infectious Diseases Notified During the Year Ending 31st December, 1924.

Notifiable Infectious Diseases	**At all Ages**	Under 1 year	1 and under 5 years	5 and under 15 years	15 and under 25 years	25 and under 45 years	45 and under 65 years	65 and upwards	No. of Cases **removed** to Hospital	No. of Cases **not removed** to Hospital
Scarlet Fever	66	..	11	38	12	5	..	..	65	1
Diphtheria	16	..	5	9	1	1	..	..	14	2
Membranous Croup ..	3	..	3	..	..	..	..	..	3	..
Typhoid Fever	1	..	..	1	..	..	..	..	..	1
Erysipelas	16	..	1	1	1	9	2	2	6	10
Puerperal Fever	4	..	..	..	1	3	..	..	2	2
Acute Primary Pneumonia	29	1	5	8	4	6	4	1	2	27
Acute Influenzal Pneumonia	10	..	..	1	..	7	..	2	1	9
Malaria	1	..	..	..	..	1	..	..	..	1
Ophthalmia Neonatorum	6	6	..	..	..	..	..	..	2	4
Totals	152	7	25	58	19	32	6	5	95	57

CHIEF INFECTIOUS DISEASES IN RELATION TO DISTRICTS AND ROOMED HOUSES, ETC.

Diseases	No. 1 or Broad Street District	No. 2 or Cowane Street District	No. 3 or Port Street District	No. of Cases in Roomed Houses				Public Institutions
				1	2	3	4 and over	
Scarlet Fever	15	18	33	7	25	11	19	4
Diphtheria	2	4	10	1	10	4	1	..
Membranous Croup ..	..	..	3	2	1	..	..	..
Typhoid Fever	..	..	1	..	..	..	1	..
Totals ..	17	22	47	10	36	15	21	4

Miss Roy, the Matron of the Combination Fever Hospital, Kildean, has kindly furnished us with the following particulars :—

ADMISSIONS TO KILDEAN COMBINATION HOSPITAL DURING 1924.

Burghs and Other Areas.

Diseases	Stirling	Bridge of Allan	Dunblane	Doune	Callander	Aberfoyle	Perthshire Western District	Stirlingshire Central District
Scarlet Fever	65	3	46	4	11	..	1	..
Diphtheria	14	2	3	..	..	1	..	..
Typhoid Fever	..	..	..	..	..	..	1	..
Erysipelas	6	..	..	..	..	..	..	1
Membranous Croup ..	3	..	..	..	..	..	..	..
Ophthalmia Neonatorum	2	..	..	..	..	..	..	..
Measles	12	..	..	..	..	..	..	..
German Measles	4	..	..	..	..	..	..	..
Whooping-Cough	1	..	..	..	..	..	..	..
Scabies	4	..	..	..	..	..	..	..
Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	1
Pulmonary Tuberculosis ..	15	..	..	..	..	..	..	..
Totals ..	126	5	49	4	11	1	2	2

81 Intimations were issued to the Headmasters of Schools, and 11 Intimations were issued to the Librarian of the Public Library.

80 apartments, with bedding, etc., were disinfected after patients were removed to Hospital, or certified free from infection.

All the properties in which the disease of Diphtheria occurred were inspected regarding the drainage, water supply, and plumber's work, and if the slightest suspicion was entertained, the drainage and sanitary fittings were thoroughly tested and the defects remedied.

It is pleasing to note that no deaths occurred among the ordinary Notifiable Infectious Diseases.

CONTROL OF TUBERCULOSIS.

PULMONARY TUBERCULOSIS.

Thirty-three cases of Pulmonary Tuberculosis were notified during the year—14 males and 19 females. Five of the cases were notified after death. Fifteen patients were treated in the Combination Fever Hospital at Kildean, 8 cases were sent to Ochil Hills Sanatorium, Milnathort, for treatment, while one patient received treatment in Preston Hall, Aylesford, Kent.

Unfortunately, during the year, 19 deaths occurred of persons suffering from this disease—8 males and 11 females.

Males.		Females.	
Age.	**Occupation.**	**Age.**	**Occupation.**
20	Mason.	15	Schoolgirl.
22	Colliery Pony Driver.	15	Schoolgirl.
28	Labourer.	21	Nail-worker.
35	Cashier.	24	Housewife.
38	Engine Driver.	26	Housewife.
43	Stone Dresser.	31	Housewife.
43	Soldier.	33	Dressmaker.
65	Clerk.	36	Housewife.
		37	Housewife.
		54	Housewife.
		60	Housewife.

DISINFECTION CARRIED OUT.

During the year 8 houses were thoroughly disinfected after deaths from Pulmonary Tuberculosis, or after patients suffering from the disease were removed to a sanatorium or other residence.

Eight sets of bedding and body clothing were removed to the Infectious Diseases Hospital, Kildean, and were destroyed or steam disinfected.

Great attention is given to the treatment of the clothes after this disease, and parties are always advised to have the bed and body clothing destroyed, and to a large extent this is carried out. In every case where a death has occurred arrangements are made between the proprietor and the tenant to have the house or room, in which the patient was nursed, cleaned down and re-papered, and this is always done.

BURIAL GROUNDS.

There are 3 public and 2 private burial grounds within the Burgh.

The public burial grounds are the Mar Place and Valley Cemeteries, Ballengeich, and the Snowdon Cemetery, which has recently been formed.

The grounds are under the charge and control of the Superintendent (Mr. Thomas Lees), and are kept in excellent condition.

INTERMENTS.

Under the Public Health (Scotland) Act, 1897, Section 69, 7 burials were undertaken during the year, 6 males aged 21, 28, 59, 60 and 62 years, and 5 weeks respectively, and 1 female aged 2 months.

The total cost amounted to £35 8s.

STATEMENT BY SANITARY INSPECTOR OF PROCEEDINGS UNDER THE PUBLIC HEALTH AND OTHER ACTS DURING 1924.

Subordinate Sanitary Inspectors employed	1

I.—NUISANCES.

Complaints received	265
Intimations served under Sec. 19	403
Notices served under Sec. 20	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

II.—WORKSHOPS.

Inspections	66
Notices served under Sec. 2 (3) of Factory and Workshop Act, 1901	4
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

III.—TENTS AND VANS.

Inspections	6

IV.—UNDERGROUND DWELLINGS.

Reported to Local Authority	—
Notices to Owners (Sec. 74)	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

V.—COMMON LODGING-HOUSES.

On Register at 31st December, 1924	9
Common Lodging-houses belonging to the Local Authority	—
Inspections between 8 a.m. and 10 p.m.	42
Inspections between 10 p.m. and 8 a.m.	—
Intimations of Irregularities sent to Keepers	—
Cases of Infectious Disease reported to Medical Officer (Sec. 97)	—
Unregistered Premises dealt with	—
Cases in which legal proceedings were taken (breaches of bye-laws, etc.)	—
Cases in which legal proceedings were successful	—

VI.—HOUSES LET IN LODGINGS.

On Register at 31st December, 1924	—
Inspections	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

VII.—INFECTIOUS DISEASES.

Visits of Inquiry, etc.	152
Patients removed to Hospital	95
Persons removed to House of Reception	—
Notices served under Sec. 50 (2)	
Notices served under Sec. 53 (2)	—
Intimations to Education Authorities, Teachers, etc.	92
Houses or Premises disinfected	80
Sets of Clothing, Bedding, etc., disinfected or destroyed	8
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	

VIII.—BURIALS.

Burials undertaken in terms of Sec. 69	7

IX.—DAIRIES, COWSHEDS, AND MILKSHOPS.

On Register at 31st December, 1924	30
Inspections	93
Contraventions of Orders or Regulations dealt with	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

X.—SLAUGHTER-HOUSES AND OFFENSIVE TRADES.

Applications under Sec. 32 for sanction to establish	—
Applications granted	—
Applications under Sec. 33 for Licence or Renewal of Licence	—
Applications granted	—
Public Slaughter-houses (if any) belonging to Local Authority	1
Private Slaughter-houses	—
Unlicensed Slaughter-houses dealt with	—
Inspections of Slaughter-houses	52
Inspections of other Offensive Businesses	12
Number of such other Offensive Businesses at 31st December, 1924	2
Cases in which legal proceedings were taken (breaches of bye-laws, etc.)	—
Cases in which legal proceedings were successful	—

XI.—UNSOUND FOOD.

Inspections under Sec. 43—(a) Meat	102
(b) Other Foods	65
Seizures of Unsound Food—(a) Meat	—
(b) Other Foods	—
Animals or carcasses or articles of food destroyed with owner's consent by or at the instance of the Sanitary Inspector	—
Cases in which owners of Unsound Food were prosecuted	—
Convictions in connection with above cases	—

XII.—ANALYSIS OF SAMPLES.

	Sale of Food and Drugs Acts	Condensed Milk Regulations	Dried Milk Regulations
	Number	Number	Number
Samples procured for analysis	54	4	2
Certified to be genuine	47	4	2
Certified to be adulterated	7	...	...
Cases in which legal proceedings were taken	1	...	...
Cases in which legal proceedings were successful	1	...	...

XIII.—RAG FLOCK ACT, 1911.

Samples procured for analysis	8
Certified to conform to Board's standard	6
Certified not to conform to Board's standard	2
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

XIV.—BYE-LAWS.

Inspections in carrying out bye-laws relating to—

(a) Pigstyes	58
(b) Public Conveyances	—
(c) Buildings	—
(d) Cleansing in Special Scavenging Districts	—
(e) Other sanitary matters	—

LIBRARY
-7 JAN. 19[illegible]